CLAIMS

1. A method of operating a packet data multicast communication system comprising a first station (BS) and a plurality of second stations (MS1, MS2, MS3), the first and second stations having transceiving equipment (14, 34) for communication between the first and second stations, the method comprising the first station transmitting a data packet and at least one of the plurality of the second stations receiving the data packet, characterised by the at least one of the plurality of the second stations measuring the quality of reception of the received data packet, and determining into which one of at least three predetermined quality ranges (R1,R2,R3) the measured quality falls, wherein the first station adopts a respective subsequent transmitter behaviour in response to each of the at least three predetermined quality ranges and wherein the subsequent transmitter behaviour corresponding to at least two non-contiguous ones (R1,R3) of the quality ranges is identical.

2. A method as claimed in claim 1, characterised by the second station transmitting indicla representative of the quality ranges other than said at least two non-contiguous quality ranges.

3. A method as claimed in claim 2, characterised by the second station transmitting the same indicia in respect of each of the at least two non-contiguous quality ranges.

4. A method as claimed in claim 1, 2 or 3, characterised in that the at least two non-contiguous quality ranges are the best (R1) and the worst (R3) quality ranges.

5. A method as claimed in any one of claims 1 to 4, wherein the measuring of the quality of reception of the received data packet is characterised by comparison of a measure of a predetermined quality metric of a received signal with at least three quality ranges.

6. A method as claimed in claim 5, characterised in that the quality ranges are defined by threshold values applied by respective second stations (MS).

7. A method as claimed in claim 5, characterised in that the quality ranges are defined by threshold values signalled to the second stations by the first station.

8. A method as claimed in any one of claims 5 to 7, characterised in that the predetermined quality metric comprises at least one of: E_b/N_0 (energy per bit/ noise density); the number of data packets received successfully in a predetermined time window; the proportion of data packets previously received correctly out of a group of predetermined number of packets; and the received SIR (Signal to Interference Ratio) or SNR (Signal to Noise Ratio) of another received signal.

9. A method as claimed in claim 8, characterised in that the quality of reception of the received data packet is determined during a predetermined duration.

10. A method as claimed in claim any one of claims 1 to 9, characterised in that the first station adjusts one or more transmission parameters to ensure that at least a predetermined percentage of secondary stations receive a data packet data service satisfactorily.

11. A method as claimed in claim 10, characterised in that the transmission parameters comprise one or more of: number of retransmissions; transmit power; spreading factor; code rate; and modulation scheme.

12. A method as claimed in claim 2 or 3, characterised in that different of the indicia (NACK1, NACK2) are distinguished by transmission at different times.

13 A method as claimed in claim 2 or 3, characterised in that different of the indicia (NACK1, NACK2) are distinguished by different code words.

14. A method as claimed in claim 2 or 3, characterised in that different of the indicia (NACK1, NACK2) are distinguished by different frequency channels.

15. A packet data multicast communication system comprising a first station (BS) and a plurality of second stations (MS1, MS2, MS3), the first and second stations having transceiving equipment (14, 34) for communication between the first and second stations, the first station having means (14) for transmitting data packet, and the second stations having means (34) for receiving the data packet, characterised by the second stations having means (46) for measuring the quality of reception, means (30, 48) for determining into which one of at least three predetermined quality ranges (R1,R2,R3) the measured quality falls, and in that the first station (BS) has means (10) for adopting a respective subsequent transmitter behaviour in response to each of the at least three predetermined quality ranges, the subsequent transmitter behaviour corresponding to at least two non-contiguous ones (R1,R3) of the quality ranges being identical.

16. A system as claimed in claim 15, characterised in that the means (46) for measuring the quality of reception is adapted to compare a measure of a predetermined quality metric of a received signal with at least three quality ranges.

17. A system as claimed in claim 15, characterised in that the first station (BS) has means (26) for adjusting one or more transmission parameters to ensure that at least a predetermined percentage of second stations receive a data packet.

18. A system as claimed in claim 17, characterised in that the transmission parameters comprise one or more of: number of retransmissions; transmit power; spreading factor; code rate; or modulation scheme.

19. A second station (MS) for use in a packet data multicast communication system comprising a first station (BS) and a plurality of second stations, the second station having transceiving equipment (34) for communication between the first and second stations and means (34) for receiving a data packet transmitted by the first station, characterised by the second station having means (46) for measuring the quality of reception, and by means (30, 48) for determining into which one of at least three predetermined quality ranges (R1,R2,R3) the measured quality falls, wherein each of the at least three predetermined quality ranges represents a respective subsequent transmitter behaviour of the first station and wherein the subsequent transmitter behaviour corresponding to at least two non-contiguous ones (R1,R3) of the quality ranges is identical.

20. A second station (MS) as claimed in claim 19, characterised in that the means (46) for measuring the quality of reception is adapted to compare a measure of received data packet quality with a predetermined quality metric.